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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/823,473	04/13/2004	Masamichi Saito	9281-4799	5991

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P.O. Box 10395  
Chicago, IL 60610

EXAMINER
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RENNER, CRAIG A

ART UNIT	PAPER NUMBER
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2627

DATE MAILED: 10/06/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

**Office Action Summary**

Application No.

10/823,473

Applicant(s)

SAITO, MASAMICHI

Examiner

Craig A. Renner

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☒ Responsive to communication(s) filed on 17 September 2004.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 1-13 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-13 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☒ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 13 April 2004 is/are: a) ☐ accepted or b) ☒ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some \* c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
  2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

- |  |   |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)  | 4) <input type="checkbox"/> Interview Summary (PTO-413)<br>Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)   | 5) <input type="checkbox"/> Notice of Informal Patent Application                       |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08)<br>Paper No(s)/Mail Date <u>04/13/2004 &amp; 09/17/2004</u> . | 6) <input type="checkbox"/> Other: _____  |

## **DETAILED ACTION**

### ***Priority***

1. Receipt is acknowledged of papers submitted under 35 U.S.C. 119(a)-(d), which papers have been placed of record in the file.

### ***Drawings***

2. The drawings are objected to as failing to comply with 37 CFR 1.84(p)(5) because they include one or more reference signs not mentioned in the description. Note, for instance, "71" (shown in FIG. 7A, for instance), "72" (shown in FIG. 7a, for instance), "133a" (shown in FIG. 8, for instance), "133b" (shown in FIG. 8, for instance), and "133c" (shown in FIG. 8, for instance).

Corrected drawing sheets in compliance with 37 CFR 1.121(d) and/or an amendment to the specification in compliance with 37 CFR 1.121(b) are required in reply to the Office action to avoid abandonment of the application. Any amended replacement drawing sheet should include all of the figures appearing on the immediate prior version of the sheet, even if only one figure is being amended. Each drawing sheet submitted after the filing date of an application must be labeled in the top margin as either "Replacement Sheet" or "New Sheet" pursuant to 37 CFR 1.121(d). If the changes are not accepted by the examiner, the applicant will be notified and informed of any required corrective action in the next Office action. The objection to the drawings will not be held in abeyance.

***Specification***

3. The abstract of the disclosure as amended on 13 April 2004 is objected to because it is not "within the range of 50 to 150 words." Currently, it has 155 words. Appropriate correction is required. See MPEP § 608.01(b).

4. The disclosure is objected to because of the following informality:

In line 6 on page 24, "GMR element T1" should be changed to --GMR element 30-- in order to be consistent with the remainder of the disclosure. Appropriate correction is required.

5. The lengthy specification has not been checked to the extent necessary to determine the presence of all possible minor errors. Applicant's cooperation is requested in correcting any errors of which applicant may become aware in the specification.

***Claim Rejections - 35 USC § 112***

6. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

7. Claims 2-3 and 10 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

Many elements in the claims are indefinite because they lack clear and/or positive antecedent basis including “the lower and upper large-area nonmagnetic metal films” (line 2 of claim 2 and lines 2-3 of claim 3), “the antiferromagnetic layer” (lines 2-3 of claim 10), “the surface facing the recording medium” (lines 5-6 of claim 10) and “the recording medium” (line 6 of claim 10).

### ***Double Patenting***

8. The nonstatutory double patenting rejection is based on a judicially created doctrine grounded in public policy (a policy reflected in the statute) so as to prevent the unjustified or improper timewise extension of the “right to exclude” granted by a patent and to prevent possible harassment by multiple assignees. A nonstatutory obviousness-type double patenting rejection is appropriate where the conflicting claims are not identical, but at least one examined application claim is not patentably distinct from the reference claim(s) because the examined application claim is either anticipated by, or would have been obvious over, the reference claim(s). See, e.g., *In re Berg*, 140 F.3d 1428, 46 USPQ2d 1226 (Fed. Cir. 1998); *In re Goodman*, 11 F.3d 1046, 29 USPQ2d 2010 (Fed. Cir. 1993); *In re Longi*, 759 F.2d 887, 225 USPQ 645 (Fed. Cir. 1985); *In re Van Ornum*, 686 F.2d 937, 214 USPQ 761 (CCPA 1982); *In re Vogel*, 422 F.2d 438, 164 USPQ 619 (CCPA 1970); and *In re Thorington*, 418 F.2d 528, 163 USPQ 644 (CCPA 1969).

A timely filed terminal disclaimer in compliance with 37 CFR 1.321(c) or 1.321(d) may be used to overcome an actual or provisional rejection based on a nonstatutory double patenting ground provided the conflicting application or patent either is shown to be commonly owned with this application, or claims an invention made as a result of activities undertaken within the scope of a joint research agreement.

Effective January 1, 1994, a registered attorney or agent of record may sign a terminal disclaimer. A terminal disclaimer signed by the assignee must fully comply with 37 CFR 3.73(b).

9. Claims 1-13 are provisionally rejected on the ground of nonstatutory obviousness-type double patenting as being unpatentable over claims 1-16 of copending Application Serial No. 10/823,474 (corresponding to US Patent Application Publication No. 2004/0207960). Although the conflicting claims are not identical, they

are not patentably distinct from each other because the only difference between the two sets of claims is that the present set of claims does not call for the material of the antiferromagnetic layer to be "Ni—O or  $\alpha$ -Fe<sub>2</sub>O<sub>3</sub>". Official notice is taken of the fact that each of Ni—O and  $\alpha$ -Fe<sub>2</sub>O<sub>3</sub> is a notoriously old and well known antiferromagnetic layer material in the art. It would have been obvious to a person having ordinary skill in the art at the time the invention was made to have claimed the antiferromagnetic layer to be Ni—O or  $\alpha$ -Fe<sub>2</sub>O<sub>3</sub>. The rationale is as follows:

One of ordinary skill in the art would have been motivated to have claimed the antiferromagnetic layer to be Ni—O or  $\alpha$ -Fe<sub>2</sub>O<sub>3</sub> since each is a notoriously old and well known antiferromagnetic layer material in the art, and since selecting a known material on the basis of its suitability for the intended use is within the level of ordinary skill in the art, *In re Leshin*, 125 USPQ 416 (CCPA 1960).

This is a provisional obviousness-type double patenting rejection because the conflicting claims have not in fact been patented.

10. Claims 1-13 are provisionally rejected on the ground of nonstatutory obviousness-type double patenting as being unpatentable over claims 1-83 of copending Application Serial No. 10/823,484 (corresponding to US Patent Application Publication No. 2004/0207962). Although the conflicting claims are not identical, they are not patentably distinct from each other because the only difference between the two sets of claims is that the present set of claims does not call for the material of the antiferromagnetic layer to be "Ni—O or  $\alpha$ -Fe<sub>2</sub>O<sub>3</sub>" or "Pt—Mn or Ir—Mn". Official notice is

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taken of the fact that each of Ni—O,  $\alpha$ -Fe<sub>2</sub>O<sub>3</sub>, Pt—Mn and Ir—Mn is a notoriously old and well known antiferromagnetic layer material in the art. It would have been obvious to a person having ordinary skill in the art at the time the invention was made to have claimed the antiferromagnetic layer to be Ni—O,  $\alpha$ -Fe<sub>2</sub>O<sub>3</sub>, Pt—Mn or Ir—Mn. The rationale is as follows:

One of ordinary skill in the art would have been motivated to have claimed the antiferromagnetic layer to be Ni—O,  $\alpha$ -Fe<sub>2</sub>O<sub>3</sub>, Pt—Mn or Ir—Mn since each is a notoriously old and well known antiferromagnetic layer material in the art, and since selecting a known material on the basis of its suitability for the intended use is within the level of ordinary skill in the art. See *In re Leshin*, supra.

This is a provisional obviousness-type double patenting rejection because the conflicting claims have not in fact been patented.

### ***Pertinent Prior Art***


11. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. This includes Dykes et al. (US 5,668,688), Dill et al. (US 5,898,548), Lin et al. (US 2003/0184918) and Lin et al. (US 2003/0184919), which each individually teaches a giant magnetoresistive element between upper and lower nonmagnetic metal films that are arranged between upper and lower shield layers.

**Conclusion**

12. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Craig A. Renner whose telephone number is (571) 272-7580. The examiner can normally be reached on Monday-Tuesday & Thursday-Friday 9:00 AM - 7:30 PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Hoa T. Nguyen can be reached on (571) 272-7579. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

  
Craig A. Renner  
Primary Examiner  
Art Unit 2627

CAR